CLAIM AMENDMENTS

1. (original) A therapeutic source comprising a radioactive composite consisting essentially of (a) a polymeric matrix and (b) a radioactive powder consisting essentially of very fine radioactive particles that are randomly and essentially uniformly dispersed within said polymeric matrix;

wherein the radioactive composite is in the shape of one or more right circular cylindrical rods, solid in cross section, having a cylindrical wall and a pair of ends on opposite sides thereof, and wherein the therapeutic source further comprises a non-radioactive sleeve which surrounds the cylindrical wall.

2. (original) A therapeutic source of claim 1, further comprising a pair of caps covering said ends of the radioactive composite.

3. (original) A therapeutic source of claim 2, wherein the nonradioactive sleeve and pair of caps are of sufficient thickness to absorb a portion of the radiation emitted or to modify the energy spectrum of the emitted radiation.

4. (original) A therapeutic source of claim 3, wherein the radioactive particles emit beta particles and wherein the nonradioactive sleeve and pair of caps reduce the average energy of emitted beta particles.

5. (original) A therapeutic source of claim 1, further comprising a radiographically detectable element for locating the source within the body of the patient.

6. (original) A therapeutic source of claim 5, wherein the radiographically detectable element comprises polymeric material containing a sufficient amount of radiopaque

material so as to allow location of the therapeutic source and detection of its orientation by conventional X-ray imaging.

7. (original) A therapeutic source of claim 6, wherein the radiopaque material is barium sulfate.

8. (original) A therapeutic source of claim 1, further comprising an axial wire having a tail portion that extends beyond an end of the radioactive composite, whereby said tail portion is adapted to be secured to a catheter.

9. (original) A method of using a therapeutic source of claim 8, which comprises using a catheter secured to the source to deliver a dose of radiation to an arterial wall which is intended to reduce the likelihood of restenosis.

10. (original) A therapeutic source comprising a radioactive composite consisting essentially of (a) a polymeric matrix and (b) a radioactive powder consisting essentially of very fine radioactive particles that are randomly and essentially uniformly dispersed within said polymeric matrix, the radioactive composite having a shape selected from the group consisting of a structure that is hollow in cross section; a suture; a mesh; a film; a sheet; and a multiplicity of microscopic essentially monodisperse spheroidal sources.

11. (original) A therapeutic source of claim 10, the radioactive composite having the shape of a multiplicity of microscopic essentially monodisperse spheroidal sources having a mean diameter of from 10 to 100 microns.

12. (original) A therapeutic source of claim 10, wherein the radioactive powder comprises palladium-103.

13. (original) A therapeutic source of claim 10, wherein the radioactive powder comprises iodine-125.

14. (amended) A therapeutic source comprising a radioactive composite consisting essentially of (a) a polymeric matrix and (b) a radioactive powder consisting essentially of microscopic radioactive particles ~~at least~~ of 0.002 to 20 micron in average dimension randomly and essentially uniformly dispersed within said polymeric matrix;

the radioactive composite being encapsulated within a metallic capsule.

15. (original) A therapeutic source of claim 14, wherein the metallic capsule comprises titanium.

16. (original) A therapeutic source of claim 14, further comprising a radiographically detectable element for locating the source within the body of the patient.

17. (original) A method of making a therapeutic source comprising a radioactive composite consisting essentially of (a) a polymeric matrix and (b) a radioactive powder consisting essentially of very fine radioactive particles that are randomly and essentially uniformly dispersed within said polymeric matrix, comprising

molding the radioactive composite into a desired shape.

18. (original) A method of claim 17, wherein the radioactive composite is molded over a pin to produce a hollow shape.

19. (original) A method of claim 17, wherein the radioactive composite is molded around a radiographically detectable element.

20. (original) A method of claim 17, wherein the radioactive composite is molded inside a capsule.

21. (original) A method of claim 17, wherein the radioactive composite is molded into a shape appropriate for use as an intracavitary applicator therapeutic source, whereby the entire applicator body is radioactive so that the area treated receives a uniform dose of radiation.

22. (original) A therapeutic source made by the method of claim 17.